The Commissioner is authorized to charge our deposit account no. 12-0400 in the amount of $25.00 to cover the fee for the one claim in excess of twenty now pending in the application.

REMARKS

In the Office Action, dated February 18, 2005, the Examiner states that Claims 3-16 are pending, Claims 3-13 are rejected, and Claims 14-16 are allowed. By the present Amendment, Applicant amends the claims.

In the Office Action, Claims 3, 4, 11 and 13 are rejected under 35 U.S.C. §103(a) as being unpatentable over Smith (US 3,792,530). Claims 9 and 12 are rejected under 35 U.S.C. §103(a) as being unpatentable over Hirdes (US 4,768,955). Claims 5 and 8 are rejected under 35 U.S.C. §103(a) as being unpatentable over Smith in view of Nielsen (US 3,890,713). Claim 6 is rejected under 35 U.S.C. §103(a) as being unpatentable over Smith in view of Werly (US 5,007,837). Claim 7 is rejected under 35 U.S.C. §103(a) as being unpatentable over Smith in view of Balamuth et al (US 3,809,977). Claim 10 is rejected under 35 U.S.C. §103(a) as being unpatentable over Smith in view of Fishburne (US 5,839,895). The Applicant respectfully disagrees with these rejections and amends the claims to clarify the claimed invention.

The rejection indicates that Smith teaches vibrating the filling material as it is conveyed, and refers particularly to column 6, lines 30 to 44. The wording of this paragraph seems not to be absolutely clear, however, the rejection concludes that the wording can be so understood as disclosing that the filling material is not only compacted in the tooth cavity by means of the vibrations (see lines 40 and 41) but also during the filling process itself.

From such disclosure the rejection seems to conclude that the plunger which is connected to the ultrasonic vibrator, transmits the vibrations to the filling compound which in turn transmits the vibrations to the surrounding nozzle which then may retransmit the vibrations to the filling compound. The rejection indicates that plunger 6 will "inherently" vibrate the nozzle and the nozzle is "inherently"

capable of functioning to transmit the vibrations to a filling compound flowing through the nozzle.

It is noted that according to the teaching of Smith the filling compound is directly set under vibrations by the plunger 6 which acts in the direction of the filling compound flow. As a consequence the vibrations are transmitted also directly and effectively to the filling compound which has already been ejected from the nozzle into the tooth cavity. This is in contrast to the present invention in which the vibrations are directly coupled to the nozzle and are merely indirectly coupled via the nozzle to the filling compound. Such indirect coupling results in the action of the sound or ultrasound on the compound diminishes rapidly once the filling compound has left the nozzle (see the specification, page 5, lines 3 to 7). This is an important advantage of the present invention, as is stated on page 5 of the specification.

Using the apparatus as taught by Smith to fill a material the viscosity of which can be lowered by subjecting it to ultrasound, would have the drawback that the ultrasound keeps the material in liquid state in the tooth cavity so that it might flow out of the cavity again.

The constructional feature in independent Claim 3 which avoids this drawback is that the sound generator is "connected to the nozzle". This is in contrast to Smith in which the ultrasound generator is not connected to the nozzle but to the plunger which in turn is slidingly received in the feed line leading to the nozzle. The rejection does not recognize this difference between the Smith reference and the present invention. Thus, Claim 3 has been amended to state that the sound generator and nozzle are solidly connected by a connection member and the sound generator is so connected to the nozzle that, once the filling compound has left the nozzle, the action of the sound on the compound diminishes rapidly.

Regarding independent Claim 9, that claim has been amended to clarify that the common actuating element simultaneously switches the sound generator and conveying process either off or on. Hirdes, to the contrary teaches that by depressing the expelling button 6 the expelling element 3 is released, and when the expelling button 6 is at the extreme depressed position the vibrator is activated (Column 7, lines 24-30). In other words, the expelling element is first released a

certain amount, then the vibrator is activated after the release of the expelling element. This is not a simultaneous activation of both the sound generator and conveying process as is claimed in Claim 9.

New Claims 17023 have been added. Independent claim 17 includes the feature of a synthetic resin filling compound having a viscosity which is lowered under the action of vibrations. None of the cited prior art references include such a feature. Support for Claims 18 and 22 may be found in the last paragraph of page 6. Support for Claim 19 may be found in original Claim 6. Support for Claims 20 and 23 may be found in the third paragraph on page 8 and in Figure 1. Support for Claim 21 may be found in original Claim 11.

In light of the foregoing response, all the outstanding objections and rejections are considered overcome. Applicant respectfully submits that this application should now be in condition for allowance and respectfully requests favorable consideration.

Respectfully submitted,

May 4, 2005
Date

Attorney for Applicant
Brian W. Hameder
c/o Ladas & Parry LLP
224 South Michigan Avenue
Chicago, Illinois 60604
(312) 427-1300
Reg. No. 45613

RECEIVED
CENTRAL FAX CENTER
MAY 04 2005

DOCKET: CU-3383

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICANT:	Rainer TILSE	)
		)
SERIAL NO:	10/069,949	) Group Art Unit: 3732
		)
FILED:	March 7, 2002	) Examiner: John J. Wilson

TITLE: METHOD AND INSTRUMENT FOR INTRODUCING A DENTAL FILLING MATERIAL WITH A SYNTHETIC RESIN BASE INTO A TOOTH CAVITY

THE COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, VA 22313-1450

AMENDED CLAIMS

1. (cancelled)

2. (cancelled)

3. (currently amended) Hand-held device for filling a synthetic resin filling compound into a cavity of a tooth, the device comprising:

a nozzle from which the filling compound is injected into said cavity,

means for conveying the filling compound from a supply container to the nozzle,

a handle portion, ~~and~~

a sound generator ~~connected to the nozzle~~, and

a connection member providing a solid connection between the sound generator and the nozzle;

wherein the sound generator sets the nozzle into oscillation while the filing compound is conveyed from the supply container to the nozzle, and the oscillation of the nozzle is transmitted to the filling compound as the filling compound flows through the nozzle such that once the filing compound has left the nozzle, the action of sound on the compound diminishes rapidly.

4. (previously presented) The hand-held device as defined in Claim 3, wherein the nozzle is a short small tube.

5. (previously presented) The hand-held device as defined in Claim 3 wherein the supply container sits exchangeably in a holder and the sound generator is coupled to the holder in oscillation-transmitting fashion.

6. (previously presented) The hand-held device as defined in Claim 3, wherein the sound generator comprises a piezoelectric oscillator.

7. (previously presented) The hand-held device as defined in Claim 3, wherein the sound generator comprises a magnetostrictive oscillator.

8. (previously presented) The hand-held device as defined in Claim 3, wherein the sound generator comprises a pneumatically excited oscillator.

9. (currently amended) Hand-held device for filling a synthetic resin compound into a cavity of a tooth, the device comprising:

a nozzle from which the filling compound is injected into said cavity,

means for conveying the filling compound from a supply container to the nozzle,

a handle portion,

a sound generator that sets the nozzle into oscillation, and

a common actuating element for the sound generator and the conveying means so that by actuating the common actuating element the sound generator and the conveying process are simultaneously both switched on, and by deactuating the common actuating element the sound generator and the conveying process are simultaneously both switched off.

10. (previously presented) The hand-held device as defined in Claim 3, wherein the hand-held device is configured in the way of a spray gun.

11. (previously presented) The hand-held device as defined in Claim 3, wherein the hand-held device is configured in the way of a dentist's handpiece.

12. (previously presented) The hand-held device as defined in Claim 9, wherein said actuating element comprises a lever or a push button.

13. (previously presented) The hand-held device as defined in Claim 3, wherein said sound generator is an ultrasound generator.

14. (previously presented) A method for filling a filling material comprising the steps of:

providing a synthetic resin having a viscosity which is lowered under the action of vibrations, and

injecting said synthetic resin into a cavity of a tooth while subjecting the synthetic resin to the action of sound.

15. (previously presented) The method as defined in Claim 14, wherein the synthetic resin is injected into the cavity using a nozzle, and the nozzle is subjected to the action of sound.

16. (previously presented) The method as defined in Claim 14, wherein the synthetic resin is subjected to ultrasound.

17. (new) Hand-held device for filling a cavity of a tooth, the device comprising:

a supply container;

a synthetic resin filling compound contained in said supply container and having a viscosity which is lowered under the action of vibrations;

means for conveying the filling compound from said supply container to a nozzle , from which the filling compound is injected into said cavity;

a handle portion; and

a sound generator connected to the nozzle;

wherein the sound generator sets the nozzle into oscillation while the filling compound is conveyed from the supply container to the nozzle, and the oscillation if the nozzle is transmitted to the filling compound as the filling compound flows through the nozzle.

18. (new) The hand-held device as defined in claim 17, wherein the nozzle sits exchangeably in a holder and the sound generator is coupled to the holder in oscillation-transmitting fashion.

19. (new) The hand-held device as defined in claim 17, wherein the supply container sits exchangeably in a holder and the sound generator is coupled to the holder in oscillation-transmitting fashion.

20. (new) The hand-held device as defined in claim 19, wherein the container is a cartridge which is provided with the nozzle.

21. (new) The hand-held device as defined in claim 17, wherein the hand-held device is configured in the way of a dentist's handpiece.

22. (new) The hand-held device as defined in claim 3, wherein the nozzle sits exchangeably in a holder and the sound generator is coupled to the holder in oscillation-transmitting fashion.

PAGE 7/9 * RCVD AT 5/4/2005 2:54:28 PM [Eastern Daylight Time] * SVR:USPTO-EFXRF-1/0 * DNIS:8729306 * CSID:312 427 6663 * DURATION (mm-ss):02-38

23. (new) The hand-held device as defined in claim 5, wherein the container is a cartridge which is provided with the nozzle.

PAGE 8/9 * RCVD AT 5/4/2005 2:54:28 PM [Eastern Daylight Time] * SVR:USPTO-EFXRF-1/0 * DNIS:8729306 * CSID:312 427 6663 * DURATION (mm-ss):02-38